Remarks

Claims 1-13, 15-17, and 20-41, 43-57, and 61-85 are pending in the application. Claims 1, 3, 4, 13, 15, 16, and 64 have been amended. Reconsideration of the application, as amended, is requested. No new matter has been added by virtue of this amendment.

Claim Rejections--35 U.S.C. § 103

The Examiner rejects claim 1-13, 15-17, 20-41, 54-57, and 61-85 under 35 U.S.C. § 103(a) as being unpatentable over Lee in view of Meslif or Witham. The Examiner notes that Lee does not appear to disclose "the second mode providing intermittent flame for producing heating levels less than the lower or minimum first heating level for simmering operation."

Claim 1 provides,

1. A cooktop, comprising a gas burner, a **dual function gas valve**, a user interface, an electronic controller, an igniter, and a flame sensor, wherein said electronic controller is connected to said dual function gas valve to control gas flow to said gas burner, wherein said user interface is for user entry of burner heating level for said gas burner, wherein said electronic controller is operative to control said dual function gas valve in accordance with said user entry, wherein said flame sensor is connected and placed to monitor for presence of flames at said gas burner, wherein said dual function gas valve includes a first mechanism to operate in a first electronically controlled mode and a second mechanism to operate in a second electronically controlled mode, said **first mode providing a continuous flame** at said gas burner modulated to a predetermined lower first heating level or to a predetermined higher second heating level, and said **second mode providing intermittent flame** at said gas burner for producing heating levels less than said lower first heating level for simmering operation, said igniter connected to **ensure reignition** of the gas delivered to said gas burner when said dual function gas valve is operating in said second electronically controlled mode.

The Examiner states that Meslif uses a pulse width modulated electrical signal to provide the missing function in the valve. The Examiner states that Meslif has two modes of operation, the first having continuous flame and the second having intermittent flame. However, applicant would respectfully ask the Examiner to consider that **Meslif actually teaches against intermittent flame.** An intermittent flame involves the flame going off and then the flame going back on again. His whole application seeks **to avoid any chance of the flame going off,** as provided in column 1, lines 44-47 and 50, column 4, lines 9-17, and the last three lines in claims 1 and 2, and claim 12. Mesliff also invokes safety in regard to avoiding the flame going off while gas is flowing, as provided in column 1 line 50 with reference to the prior art as described in column 1, lines 44-47.

Meslif also mentions danger in column 5, line 49. Furthermore, Meslif does not teach or suggest turning on the flame after has gone off.

Meslif involves only on-off **modulation** in a valve to provide an intermediate average amount of flow. In Meslif the off time is not allowed to be so great as to allow the flame to be extinguished. Modulation of a valve member provides a regulated average flow that keeps the flame lit. Meslif teaches a single mode of operation in which the valve member reciprocates at an adjustible frequency to provide more or less gas flow. There is only this one mode of operation in Meslif to achieve a continuous flame. There is no teaching or suggestion of combining this with a second mode that has an intermittent flame which would have on-off-on, as provided in claims 1 and 13.

The Examiner states that Witham discloses operation of a cooktop in either of two modes, the first having continuous flame modulation and the second having intermittent flame.

However, applicant would respectfully ask the Examiner to consider that Witham provides valve 32 and solenoid 44, which are two separate devices. Witham does not teach or suggest combining these functions that Witham has in these two distinct devices in a dual function gas valve as provided in claim 1.

Witham teaches providing two burners with both valve 32 and solenoid 44 (controlled by knobs 24 and 26) and two other burners having only valve 32 and not having solenoid 44 (controlled by knobs 28 and 30). Witham illustrates this with dotted line 38 showing channel 38 and other dotted line 40 showing channel 40. Channel 38 includes valve 32, solenoid 44 and potentiometer 58. Channel 40 includes valve 32 but excludes both solenoid 44 and potentiometer 58. Because Witham has these two channels, both including valve 32 and one excluding solenoid 44, valve 32 must be a separate device from solenoid 44 for Witham's scheme to work. Thus, **Witham teaches against combining the function of both of these devices in a dual function gas valve,** as provided in claim 1 of the present patent application. Witham must have them as separate devices to be able to use valve 32 for all his burners, two with and two without the on-off sequencing function.

In addition, Witham's valve 32 is mechanically controlled with knob 24, 26, 28, 30. There is no teaching or suggestion of electronic control of valve 32 in Witham. Thus, Witham does not teach or suggest the idea of two electronically controlled functions, much less combining two functions in one valve. None of the references, either individually or in combination, teach or suggest the idea of two electronically controlled functions.

Lee, Meslif, and Witham, individually and in combination, do not teach or suggest providing a valve that includes a mode with an intermittent flame and a mode with a continuous flame, as described in claim 1. Nor do they teach or suggest a mode with a continuous flame and a mode with an intermittent flame in which both the continuous

flame mode and the mode with the intermittent flame mode are electronically controlled. Nor do any of the references teach or suggest re-ignition. In addition, none of these references, individually or in combination, teach or suggest having two electronically controlled modes for operation of a valve in which an intermittent mode provides lower heating, lower temperature, or flow for a fraction of time and otherwise sealed off as provided in claims 13, 25, and 64 respectively. In addition, none teach or suggest providing a combination of two electronically controlled mechanisms to provide a lower temperature as provided in claim 25. Thus, the rejection of claims 1, 13, 25, and 64, and claims dependent thereon, has been traversed.

Prior Art Made of Record and Not Relied Upon

The prior art made of record and not relied upon has been reviewed and applicant's attorney believes them to be no more relevant than the prior art relied upon.

Conclusion

It is believed that the claims are in condition for allowance. Therefore, applicant respectfully requests favorable reconsideration. If there are any questions please call applicant's attorney at 802 864-1575.

Respectfully submitted,

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